UNIVERSITÄT GREIFSWALD
Wissen lockt. Seit 1456

Job vacancy

Research Assistant - Center for Functional Genomics and Microbes 24/Wi41

University of Greifswald, 19 December 2024 | deadline: 31 January 2025

At the University of Greifswald's **Center for Functional Genomics and Microbes**, Department of Molecular Genetics and Infection Biology (chair: Prof. Dr. S. Hammerschmidt) in the Faculty of Mathematics and Natural Sciences, there is a job vacancy expected to be available for **next possible appointment**, subject to the allocation of funds, for a part-time (65%)

Research Assistant.

The position is limited to a period of **three years**. Payment will be made according to pay group 13 *TV-L Wissenschaft*.

Job Description:

The project, funded by the German Research Foundation (DFG), deals with the SecA-transport systems of *Streptococcus pneumoniae* (the pneumococcus), a Gram-positive bacterium, and aims to elucidate secreted effector proteins and their impact on infection. This project is a collaborative project and is being carried out in cooperation with the Pasteur Institute in Paris and the University of Lyon, France.

In this project, we would like to identify the bacterial proteins that are exported by the SecA2-System and characterise the function of the secreted proteins during infection and for bacterial physiology. The project will use state of the art proteomics to identify the proteins whose secretion is dependent on SecA2. This will be done both using an unbiased, and a targeted approach, in which we will address the role of SecA2 in the secretion of proteins known to be important for infection. The project further aims to characterise the pathophysiological role of the SecA2 secretion system in the interplay with host cells and under experimental *in vivo* conditions. The phenotype and pathophysiology of our *secA2* -mutants constructed in our three selected serotypes will be assessed in two different established *in vivo* infection models.

Work tasks:

- Generation of *secA*-mutants and *secA2-lytA* double mutants lacking the major autolysin of pneumococci
- Generation of additional mutants lacking the sortase A gene, encoding the transpeptidase needed for anchoring proteins to the peptidoglycan
- Proteomic analysis of the secretome/exoproteome of wild-type and isogenic mutants under physiological and infection relevant conditions
- Application of traditional molecular biological and biochemical methods and *in vitro* infection experiments with primary phagocytes and epithelial cells
- Application of *in vivo* infection experiments using the established *Galleria mellonella* infection model and intranasal mouse infection models
- Measurements in flow cytometry, by means of ELISA, cytokine analyses and bioimaging e.g.

in confocal laser scanning microscopy

The position provides the opportunity to complete a doctorate on a topic that belongs to the area of research outlined above.

Job requirements:

- Postgraduate university degree in life sciences (Master of Science or equivalent)
- Interest in infection research with bacterial pathogens
- Knowledge in the fields of cell biology, cellular microbiology, molecular biology, biochemistry, immunology, laboratory animal science
- Excellent English language skills

This vacancy is open to all persons, irrespective of gender. Severely disabled applicants with the same qualifications will be considered with preference.

In accordance with § 68(3) PersVG M-V, the Staff Council will only be involved in staff matters of the academic or artistic staff on request.

Unfortunately, application costs (e.g. travel expenses for interviews) will not be reimbursed by the state of Mecklenburg-Vorpommern.

Please note that by submitting your application, you provide your consent pursuant to data protection law for our processing of your application data. Further information about the legal bases and the use of your data can be found here.

Applications comprising all usual documents (cover letter, CV, certificates, list of research activities, and if applicable, letter of recommendation and list of publications, as well as the name and contact information of at least one academic reference) should be sent with reference to the job advertisement number **24/Wi41** by **31 January 2025**, preferably via email (one PDF file), to:

Universität Greifswald
Center for Functional Genomics of Microbes
Interfaculty Institute of Genetics und Functional Genomics
Department of Molecular Genetics and Infection Biology
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HR EXCELLENCE IN RESEARCH